

Mexico, but with no apparent reason, though it is found there as stated above and indeed has been already credited to Grant Co., by Townsend.

As I have said above, there is a Californian species, hitherto undescribed, allied to *L. wheeleri* by its lesser size, hind wings blue at base and hind tibiae mostly blue, instead of, as in the larger forms and in *L. intermedius* as well, having the disk of the wings yellow and the hind tibiae yellow or red. It may be called *L. glaucipennis* and differs from *L. wheeleri* in that it is slightly smaller, the wings are of a paler blue (of the tint found in blue specimens of *Derotmema saussureanum* Brun.), the hind process of the metazona is distinctly acute and, except sometimes in the female, not subrectangulate,—though both species are variable in this respect

like *L. elephas*; the lateral carinae of the pronotum are also more sharply angulate, especially in the female, the median carina a little more prominent, and the granulations of the pronotal disk more prominent and sharper. It varies little in size, and the following measurements are taken from average individuals: Length of body, ♂, 19 mm., ♀, 33 mm.; antennae, ♂, 8.5 mm., ♀, 12 mm.; tegmina, ♂, 22 mm., ♀, 34 mm.; hind femora, ♂, 12.5 mm., ♀, 21 mm. I have seen specimens from the following California localities: Point Loma, July 23, Los Angeles, July 25, and Rubio Wash, Altadena, July 29, all collected by A. P. Morse; and Santa Rosa Island, H. Edwards; also from Durango, Mex., E. Palmer, and San Luis Potosi, Mex., G. Barroeta.

THE MELANOPLI OF KANSAS. — II.

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MELANOPLUS.

LAKINUS SERIES.

M. lakinus Scudder.—Antennae a little more (male), or a little less (female) than two thirds the length of the hind femora. Frontal costa variably sulcate. Posterior expansion of the pronotum variable, in two specimens (males) subequal, prozona elongate in female and longer than metazona. In these characteristics it varies somewhat from Scudder's description and favors *M. sonorae* but is excluded from that species by its blue hind tibiae. On the

hind femora there is a basal fuscous spot on the upper inner surface.

We have one female from Hamilton county which agrees with the specimens above described in general but has a broader interspace between the mesosternal lobes which forms the chief distinguishing characteristic of *M. marculentus*. Being an alcoholic specimen in this case the color markings distinguishing *lakinus* from *marculentus* are not to be implicitly relied upon, therefore, the exact position of the insect remains in doubt.

Two females from Ford county,

three males and five females from Hamilton county, July. Reported previously from Lakin, Kearney county.

M. marculentus Bruner. One male, Russell Co., August. This specimen manifests a trait liable to appear in short-winged varieties. It agrees with Scudder's description of *M. marculentus* with the exception of the darker coloring of the upper portion of the head and pronotum, and the greater length of the subgenital plate, but instead of the normal abbreviate wing the insect has well developed tegmina and wings. The tegmina extend clearly beyond the end of the abdomen and are remarkably broad for one of this genus. Width 6 mm., length 11 mm. (est.; the tips were frayed). Basal half testaceous, two or three testaceous spots on discoidal area. Wings hyaline, veins and cross-veins fuscous in distal portion, glaucous basally.*

SPRETUS SERIES.

This group as classified by Scudder contains seven species of remarkable similarity; five of the seven, however, exist, in the United States, only west of the Rocky Mountains. The other two, *atlanis* and *spretus*, are at times easily distinguished, and again specimens of each are found which in every particular fail to fit any written descrip-

tion we have met on the subject. The characteristics not shared by both seem to be the extreme flaring and flatness of the metazona in *spretus* and the more nearly rectangular form of the humeral angle as seen laterally in the same species.

M. atlanis Riley.—Genae and sides of pronotum varying from yellowish testaceous to dark griseo-fuscous. Markings of vertex of pronotum variable, vertex generally showing a dark mottled stripe widening posteriorly and a lighter mottled linear area between this and the eye. Sometimes the vertex is marked with irregular diffusion of fuscous. Dorsum of pronotum dark griseo-fuscous, sometimes uniform, and noticeably darker along the median line; or rarely, lighter in this position. Occurs quite generally over the State.

M. spretus Uhler.—In the field work of 1897 this species was erroneously reported upon the determination of another as having been taken in Edwards county that season.* The next season, 1898, a careful watch was kept for its presence and on one morning it was decided to ascertain approximately the relative number of *spretus* and *atlanis* present along the county line between Edwards and Ford counties north of the Arkansas river. 100 specimens of these closely allied forms were taken, kept apart from other material, and determined. It was found that of this number 19 were *spretus* and 67 were *atlanis*. This

* We were unable to find reference to such a wing development in this species. Since writing the above, however, in conversation with Professor L. Bruner he informed me that he had taken a number of the long-winged males of *marculentus* in the vicinity of Colorado Springs, Colo. S. J. H.

* U. of K. Bull. Depart. of Ent., Oct., '97.

season again a special watch was kept for any *spretus* which might be taken during the collecting hours, resulting, as we had supposed from observations in the field, in the taking of no specimens of *spretus* whatever. On careful examination of this material, however, we find what we believe to be one specimen of *spretus*, a female.

These notes are here recorded since the absence and recurrence of *spretus* is never without interest. Not present in this territory in 1897, we find it in limited numbers in 1898 and this season out of all the material taken during four weeks collecting in Hamilton, Ford and Russell counties but one doubtful specimen among the captures.

THE GENUS KERMES IN NORTH AMERICA.

BY GEO. B. KING, LAWRENCE, MASS.

When I first thought of writing upon this genus it was my intention to take up the European species, but owing to the fact that I have not yet been able to consult some of the more important European literature treating upon the species found, and also that I wish to possess or at least see most of the species, I have abandoned it for the present, and taken up our North American forms. As there are not sufficient specific microscopical characters in the adult female to formulate a table of the species I have thought it best to put them into sections, based upon a superficial examination of the female scale.

1. Section of *Kermes galliformis* Riley. Globular forms, or nearly so, segmentation obscure; not gibbous. *K. boguci*, *K. pubescens*, *K. nigropunctatus*, *K. kingii*, *K. ceriferus*, *K. pettiti*, *K. austini*, *K. grandis*, *K. perryi*, and *K. galliformis* var. *cueroensis*, n. var.

2. Section of *Kermes gillettei* Ckll.

Scales gibbous, segmentation distinct, *K. concinnulus* and *K. cockerelli*.

3. Section of *Kermes nivalis* King. Ckll. Scales shaped like a convex *Lecanium*, not globular or gibbous.

4. Section of *Kermes andrei* King. Scales very convex, elongated or pyriform in shape.

Prof. Cockerell finds Boitard, in 1828, the earliest author to use *Kermes* as a true generic name. Of course *Kermes* (as he says) was used as a popular term for many years before Boitard's time, as will be seen when I treat of the European species. The total number of *Kermes* described is 26 and one variety, with one more yet to be named by Newstead, found in Africa. The name *K. quercus* was proposed for it, but this is preoccupied. Europe has 12 and North America 15 species and one variety. The *Kermesinae* therefore contains 27 species and one variety, all of which belong to one genus, *Kermes*. The localities which have produced new species in North